

Atty's Docket No. : GE Bayer 9930.2-WCG

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

SERIAL NO. : 08/894,824
APPELLANT : Robert FRIEBE, et al.
FILED : August 29, 1997
EXAMINER : M. Moore
ART UNIT : 1712
FOR : **CONDENSATION CROSS-LINKING POLYSILOXANE
MASSES, A PROCESS FOR PREPARING THE SAME AND
SURFACE-MODIFIED FILLERS**

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TC 1700*

Hon. Assistant Commissioner of Patents
Washington, D.C. 20231

APPEAL BRIEF UNDER 37 C.F.R. RULE 1.192

This is an appeal from the final rejection by an Examiner in Art Unit 1712.

1. RIGHTS

The instant application is owned by GE BAYER SILICONES GMBH & CO., record owner hereof.

2. RELATED PROCEEDINGS

The undersigned is not aware of any appeals, interferences, re-examinations, infringement actions or the like, in any related applications.

05/13/2002 GTEFFERA 00000017 141263 08894824

01 FC:116 400.00 CH

05/13/2002 GTEFFERA 00000017 141263 08894824

02 FC:120 320.00 CH

3. STATUS OF CLAIMS

Claims 1-3, 6, 8-10 and 13 are all of the claims pending in the application and each has been rejected. All of these claims are on appeal.

4. STATUS OF AMENDMENTS

The last amendment that was entered was filed on April 26, 2001. There are no unentered amendments.

5. SUMMARY OF THE INVENTION

Each of the appealed claims relates to polysiloxane compositions that cross-link by condensation. Further, these compositions are cross-linkable at room temperature.

The compositions comprise six components:

- a) at least one cross-linkable polysiloxane having a reactive terminal group;
- b) at least one basic filler, and optionally, other fillers;
- c) at least one phosphorous compound from the group comprising phosphoric acid esters;
- d) at least one alkoxy silane cross-linking agent;
- e) at least one organometallic compound; and
- f) optionally, other auxiliary components, e.g., plasticizers, pigments, antimicrobials, pesticides, bonding agents, stabilizers, etc.

Surprisingly, the compositions according to the claims are far superior to those disclosed by the cited references. The objective evidence of record indicate that the claimed compositions demonstrate, *inter alia*, (1) greatly improved elasticity (i.e., enhanced elongation at rupture), and (2) improved shelf-life (i.e., stability at elevated temperature, 50° C, or 122 ° F).

6. ISSUE

The sole issue is whether claims 1-3, 6, 8-10 and 13 are unpatentable under 35 U.S.C. § 103(a) over each of the following reference combinations:

(1) U.S. Patent No. 4, 147,855 to Schiller et al., ("Schiller") in view of U.S. Patent No. 4, 434, 283 to Sattlegger et al., ("Sattlegger"); and

(2) U.S. Patent No. 5,063, 087 to Eck et al., ("Eck") in view of U.S. Patent No. 4, 434, 283 Sattlegger et al., ("Sattlegger").

7. GROUPING OF CLAIMS

The appealed claims stand or fall together.

8. ARGUMENT

The foundation of Examiner's rejection is set forth in the Office Action dated November 14, 2000, which is partially a carry-over from the parent case's Final Office Action of October 18, 1999. The Examiner's underlying analysis in rejecting the claims has consistently had essentially two parts: (1) the obviousness of adding an adhesion promoter (See, OA October 18, 1999, item 3); (2) combining Sattlegger and Eck, which is "motivated by the expectation of comparable results...." (See, OA November 14, 2000, item 4).

The Examiner's analysis has neither focused on the claimed invention as a whole, nor on the references as a whole. Instead, a hindsight reconstruction of the invention using the claims as a blueprint ensued. In view of this improper analysis, the rejections should be reversed.

In addition, the Examiner has inappropriately applied Schiller. Eck and Sattlegger are clearly the closest reference. Thus, the additional references are not warranted and their citing in this matter goes against PTO guidelines. In view of this inappropriate application of the references, the rejection should be reversed.

A. APPELLANTS' SUPERIOR RESULTS DEMONSTRATE THAT ECK, ALONE OR IN COMBINATION WITH SATTLEGER, DOES NOT RENDER THE APPELLANTS' CLAIMS OBVIOUS

A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, (Fed. Cir. 1983). When viewing Eck and the Appellants' inventions in their entirety, it is clear that one with ordinary skill would not use Eck to arrive at the presently claimed invention. This conclusion is based on the objective evidence presented in the reference and the application.

Superior results rebut a *prima facie* case of obviousness. MPEP § 2144.09. A *prima facie* case of obviousness based on structural similarity is rebuttable by proof that the claimed compounds possess unexpectedly advantageous or superior properties. *In re Papesch*, 315 F.2d 381 (CCPA 1963). As demonstrated below, the Appellants' composition is far superior to Eck's, and combining it with Sattlegger cannot cure its deficiencies.

Appellants' goal, in part, is to achieve a composition that will have a low modulus of elasticity, high elongation at break, and good storage stability. See specification, page 3, lines 8-11. Eck's compositions clearly perform unsatisfactorily.

In Table III in Eck, see column 9, the measured elongation at break of freshly made compositions ("*") and aged compositions ("**") are disclosed. Two critical points need to be addressed.

In Eck, the highest elongation at break attained was lower than the Appellants' least well performing composition— compare Eck's high of 430%, and Appellants' low of 500%. See specification, Table I, page 12, comparing line 8 with the best of Eck. However, the overwhelming majority of Appellants' compositions attained elongation at break point (i.e., rupture) of between 780% and 930%. This means that Appellants' composition was more than twice as elastic as Eck's.

It is also clear that Eck's compositions are highly unstable when compared to Appellants'. When comparing the performance of Eck's freshly made composition (*) with that after storage for six days at 140°C (**) it is clear that the performance is greatly reduced. For example, in example (f) the elongation falls off from 420% to 120%.

However, Appellants' compositions were still in perfect condition after even 10-14 weeks or 70-98 days at 50°C. See Table I, footnote 1. This is approximately ten times more stable than Eck's. Note that Appellants' compositions were also from two to seven times more stable than their own comparative test compositions. See Table I, specification, comparative examples 9 and 10.

Taken together, it cannot reasonably be disputed that the objective evidence is consistent with the Appellants' compositions having much greater elongation (780 vs. 420%) and shelf storage (70-98 days vs. 6 or less) than Eck's.

As stated above, superior results rebut a *prima facie* case of obviousness. MPEP § 2144.09. As shown above, the Appellants' composition is far superior to Eck's, and accordingly, overcomes Eck as a reference.

This is also true for the combination of Eck and Sattlegger. The latter reference does not cure Eck's deficiencies, because it does not provide any objective characterization of its compositions. Only subjective and qualitative comments are provided, e.g., column 5, lines 41-44, reciting "good adhesion."

Further, Sattlegger does not discuss or refer to any viscoelastic properties, namely elongation at break, elastic modulus, tensile strength, etc., as is required by Appellants' claimed invention. One with skill in the art could not find any objective evidence in Sattlegger and/or Eck that would guide the artisan to the Appellants' invention.

For this reason, the Appellants respectfully solicit reversal of the rejections over the Eck/Sattlegger combination.

The References Cannot Provide a Motivation to be Combined, Nor do They Provide a Reasonable Expectation of Success

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, that the references must provide some suggestion or motivation, either themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2143.

Neither Eck nor Sattlegger provide any motivation to combine their teachings. Sattlegger does not provide any guidance to allow one with ordinary skill to choose a given experimental direction because it does not provide any objective indicia of the nature of the resultant compositions.

Eck provides some guidance in the form of its objective evidence. However, as documented above, Eck's results are clearly inferior given the poor elongation at break and poor stability. These results would likely discourage one with ordinary skill from using Eck's teachings to obtain a composition of high elongation, low modulus and low tear resistance. There would be no motivation to combine Eck with Sattlegger.

However, assuming *arguendo*, that the references could be combined, their teachings cannot provide a reasonable expectation of success in arriving at the Appellants' invention. There is no objective evidence that would allow one to reasonably expect that Sattlegger's teachings provide sufficient guidance to even marginally improve Eck, let alone improve it to the extent required to approximate the Appellants' compositions.

Further, combining Sattlegger with Eck would likely render Sattlegger's composition more unsatisfactory for its intended purpose. Eck's inferiority can reasonably be expected to reduce the usefulness of Sattlegger for its own intended

purpose. Thus, combining these references would violate PTO guidelines prohibiting modification of a reference, when the modification renders the referenced invention less satisfactory. MPEP § 2143.01.

In sum, the Appellants' compositions are far superior to Eck's. This showing of superior results is sufficient in itself to rebut a *prima facie* case of obviousness. MPEP § 2144.09. This conclusion is buttressed by demonstrating that Sattlegger provides no suggestion that it could be combined with Eck to provide a reasonable expectation of success at arriving at the Appellants' invention.

Accordingly, the Appellant respectfully solicits reversal of the rejection under § 103(a) over Eck and Sattlegger.

B. SCHILLER, ALONE, OR IN COMBINATION WITH SATTLEGER, DOES NOT RENDER THE APPELLANTS' INVENTION OBVIOUS

The Combination of Schiller and Sattlegger is not the Closest Prior Art

The PTO guidelines require that when making comparisons of objective results, the Appellant must compare its claimed invention with the closest prior art which is commensurate in scope with the claims. See *In re Boesch*, 617 F.2d 272 (CCPA 1980) and MPEP § 716.02(d) - § 716.02(e) (Emphasis added). The Appellants respectfully suggest that because the combination of Eck/Sattlegger comprises the closest prior art, the rejection over Schiller/Sattlegger should be reversed.

The Examiner holds all claims unpatentable under § 103(a) over the combination of Eck in view of Sattlegger, and independently, over Schiller in view of Sattlegger. Because Sattlegger's teachings are identical in each of these combinations, the Examiner must have concluded that Eck and Schiller are equivalent prior art in relation to Appellants' invention. However, a closer inspection indicates that this is not correct. Eck/Sattlegger is much closer prior art than Schiller/Sattlegger. Thus the rejection over Schiller/Sattlegger should be reversed. MPEP § 716.02(e).

Schiller's invention requires a crosslink/adhesion promoter having at least one nitrogen atom and at least three hydrolyzable groups per molecule. See Abstract; column 1, lines 60-66; column 3, line 17-column 4, line 65. Examiner cites Sattlegger/Schiller to import into Schiller's composition, Sattlegger's alleged version of Appellant's component d). See Office Action November 14, 2000, page 2, item 3. Thus, the combination of Schiller and Sattlegger results in a composition having two dissimilar crosslinking agents/adhesion promoters, in addition to a phosphate ester.

In contrast, Eck/Sattlegger teach a single crosslink/adhesion promoter (i.e., analogous to component [d]) lacking the requirement for at least one nitrogen atom and at least three hydrolyzable groups, while also including a phosphate ester. This is closer to the Appellants, who similarly require only one crosslink/adhesion promoter, and a phosphate ester. Further, as in Eck, the Appellants' crosslink/adhesion promoter also does not require at least one nitrogen atom or at least three hydrolysable groups. Therefore, it is clear that as prior art, the combination of Eck/Sattlegger is much closer to Appellants' claims than is Schiller/Sattlegger.

Accordingly, the rejection over Schiller/Sattlegger is improper in view of the Examiner having already asserted the closest prior art. MPEP § 716.02 (e).

In accordance with these guidelines, the Appellants respectfully suggest that responding to Eck/Sattlegger rather than Schiller/Sattlegger falls squarely within the scope of these rules, and that the rejection under § 103(a) over Schiller/Sattlegger be reversed.

Appellants' Superior Results is Strong Evidence of Nonobviousness Over Schiller Alone, or in Combination With Sattlegger

It is long-held PTO policy that superior results rebut a *prima facie* case of obviousness. MPEP § 2144.09. A *prima facie* case of obviousness based on structural similarity is rebuttable by proof that the claimed compounds possess unexpectedly

advantageous or superior properties. *In re Papesch*, 315 F.2d 381 (CCPA 1963). The Appellants' composition is far superior to Schiller's, just as it is to Eck's.

The three properties that the Appellants sought to achieve in the claimed invention was a lower modulus of elasticity, a high elongation at break point and good storage stability. The only common property disclosed by Schiller is the elongation at break point. This is disclosed in Schiller, Table 1, column 8. Appellants note two important observations.

Most important, is that the best elongation that Schiller obtains is about 560%. This is only marginally better than the Appellants' worst result. Most of Appellants' compositions provided between about 800-930 % elongation. This corresponds to elongations almost twice that obtained by Schiller's compositions.

Therefore, with respect to only one key performance index sought by Appellant, Schiller provides obviously inferior results. Accordingly, Appellant respectfully suggests that this is strong evidence of nonobviousness, and that the rejection under § 103(a) be reversed.

There is no Reasonable Motivation to Combine Schiller with Sattlegger

Combining Schiller/Sattlegger requires that the two references be considered in their entirety, i.e., for all that they teach, including portions that would teach away from the claimed invention. MPEP § 2141.02. In other words, the Appellants' claimed invention cannot be used merely as a blueprint to pick and choose claim elements from the combination of Schiller/Sattlegger in order to reconstruct the claimed invention in hindsight. Interconnect Planning Corp. v. Feil, 774 F.2d 1132 (Fed. Cir. 1985).

As discussed above, the combination of Schiller and Sattlegger results in a composition having two dissimilar crosslinking agents/adhesion promoters, in addition to, *inter alia*, a phosphate ester. There is no motivation in either Schiller or Sattlegger to combine their teachings so as to arrive at the claimed composition. This is can be

appreciated by a cursory examination of Schiller's Table 1 that indicates that Schiller's composition is less elastic than desired.

One with skill in the art would find it completely counterintuitive to conclude that to achieve greater elasticity, one would combine Schiller and Sattlegger, because doing so would increase crosslinking of the composition. It is known that increased crosslinking would tend to render the composition even less elastic than Schiller.

In view of this, there cannot be any reasonable expectation of success that combining Schiller and Sattlegger would yield the Appellants' compositions. Without this, there cannot be any explicit or implicit motivation to combine Schiller and Sattlegger. MPEP § 2143.02

Further, assuming *arguendo* that Sattlegger was a very good composition, combining it with Schiller's would render Sattlegger's composition more unsatisfactory for its intended purpose. This would not be a valid basis for combining references, and in fact, is very strong evidence that there is no motivation to combine references. MPEP § 2143.01.

Appellants respectfully request that the rejection over Schiller and Sattlegger be reversed.

9. CONCLUSION

The Appellants' have demonstrated three bases to withdraw the rejection over Eck/Sattlegger: (a) Appellants' comparison of objective evidence leading to an indisputable showing of superior results; (b) Eck/Sattlegger provide no suggestion that they can be combined with Eck to provide a reasonable expectation of arriving at the Appellants' invention; (c) combining Sattlegger with an inferior composition as taught by

Eck would likely render Sattlegger even less satisfactory for its intended purpose, thus violating PTO guidelines.

Similarly, the Appellants have demonstrated four distinct bases for withdrawing the rejection over Schiller and Sattlegger; (a) it is not the closest available prior art; (b) Appellants' compositions provide superior properties to Schiller/Sattlegger; (c) there cannot be a reasonable expectation of success that combining Schiller and Sattlegger would arrive at the Appellants' invention; (d) Schiller would render Sattlegger more unsatisfactory for its intended purpose, thus violating PTO guidelines.

Accordingly, the final rejection is in error and should be reversed.

10. CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, Appellants request that this be considered a petition therefore. Please charge the required fee to Deposit Account No. 14-1263.

Please charge any further insufficiency of fees, or credit any excess to Deposit Account No. 14-1263.

Respectfully submitted,

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